

AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims

1-13 (cancelled)

14. (currently amended): Process according to Claim 23, wherein after emitting their energy the ~~phosphorescent particles~~ microradiators are conveyed past the electromagnetic radiation source again and recharged.

15. (previously amended): Process according to Claim 14, wherein the microradiators are separated from the photocatalyst and/or from the reaction medium before being passed to a separate radiation source and activated, before being then passed back into the reaction medium.

16. (previously amended): Process according to Claim 23, wherein the photocatalytic reaction is an oxidation of organic compounds in aqueous solution.

17. (currently amended): Process according to Claim 23, wherein the photocatalysts ~~is~~ are TiO_2 particles and the microradiators are glass particles which have been doped with rare earth elements and can be excited with UV light or visible light.

18-22. (cancelled)

23. (presently amended): Process for carrying out photocatalytic reactions, comprising the steps of:

- a) providing solid photocatalysts;
- b) suspending the photocatalysts in a liquid or gaseous reaction medium or applying them to a surface;
- c) providing microradiators in particle form which are ~~charged up at an~~ suitable for adsorbing a supplied electromagnetic radiation source and, with a time delay, for which emitting this energy with a time delay light which excites the photocatalysts; and

- d) charging up the microradiators at an electromagnetic radiation source;
- e) transporting the microradiators to the photocatalysts; and
- f) activating the photocatalysts by means of the light emitted by the microradiators.

24. (new) Process according to Claim 23, wherein photocatalytic reaction is carried out in a reactor vessel which is a fluidized bed reactor, a continuous-flow or tube reactor, a fixed bed reactor or a stirred tank reactor.

25. (new) Process according to Claim 24, wherein the photocatalysts have a particle diameter of from 1 nm to 100 μm in suspension reactors or from 1 μm to 1 mm in fluidized-bed reactors or fixed-bed reactors.

26. (new) Process according to Claim 23, wherein the microradiators have a phosphorescence half-life of from 5 seconds to 30 minutes and a particle size of from 1 nm to 1 mm.

27. (new) Process according to Claim 26, wherein the microradiators have a particle size of from 10 μm to 0.5 mm.